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November 16, 2004

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Art Unit 2685

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Re:

U.S. Utility Patent Application

Application No. 09/855,851; Filed: May 16, 2001

For: Apparatus, System, And Method For Down-Converting

And Up-Converting Electromagnetic Signals

Inventors:

SORRELLS et al.

Our Ref:

1744.1260001

Sir:

Transmitted herewith for appropriate action are the following documents:

- 1. Second Supplemental Information Disclosure Statement;
- 2. Form PTO-1449 listing 115 documents;
- 3. Photocopies of Document Nos. AK23, AL23, AR58, AN59, AO59, and AP59;
- 4. CD-ROM Reference Disc 3, having stored thereon searchable electronic copies (in PDF format) of documents listed on Form PTO-1449; and
- 5. One return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Sterne, Kessler, Goldstein & Fox P.L.L.C.: 1100 New York Avenue, NW: Washington, DC 20005: 202.371.2600 f 202.371.2540: www.skgf.com

Commissioner for Patents November 16, 2004 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Patrick E. Garrett

Attorney for Applicants Registration No. 39,987

PEG/NDD/sjc Enclosures

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Confirmation No.: 9178

SORRELLS et al.

Art Unit: 2685

Appl. No.: 09/855,851

Examiner: Le, Lana N.

Filed: May 16, 2001

Atty. Docket: 1744.1260001

For:

Apparatus, System, and Method for Down-Converting and Up-

Converting Electromagnetic

**Signals** 

**Second Supplemental Information Disclosure Statement** 

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Second Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Supplemental Information Disclosure Statement filed on June 24, 2003 in connection with the above-captioned application.

In addition to providing hard copies of the documents as required by applicable rules, Applicants herewith provide a Compact Disc labeled "Disc 3" having stored thereon searchable electronic copies (in PDF format) of the documents listed on the PTO-1449. More specifically, the CD contains electronic copies of documents AK23, AL23, AI51, AA52, AE52-AI52, AA53-AI53, AA54-AI54, AA55-AI55, AA56-AI56, AA57-AF57, AR58, AN59, and AO59. In addition, the CD also contains electronic copies of documents AM13, AJ14-AM14, AJ15-AM15, AJ16-AM16, AJ17-AM17,

AJ18-AM18, AJ19-AM19, AJ20-AM20, AJ21-AM21, AJ22-AM22, AJ23, AC46-AI46, AA47-AI47, AA48-AI48, AA49-AI49, AC50-AI50, AA51-AH51, AQ51, AR51, AN52-AR52, AN53-AR53, AN54-AR54, AN55-AR55, AN56-AR56, AN57-AR57, and AN58-AQ58, all of which were cited in the present application in previous Information Disclosure Statements. Documents AA50, AB50, AB52-AD52, AG56-AI56, AA57-AI57, AA58-AI58, AA59-AI59, AP59, AA60-AI60, AA61-AI61, AA62-AI62, AA63-AI63, and AA64-AI64 have not been scanned. The file names on the CD correspond to the identifiers on the PTO-1449 forms. It is noted that the CD is being provided in addition to hard copies of the documents for the convenience of the Examiner.

Applicants have listed publication dates on the attached Form PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Document AK23 was cited in an Office Action in related Japanese Patent Application No. 2000-577,764, filed June 21, 2000, entitled "Applications of Frequency Translation," directed to related subject matter.

Documents AL23, AB57-AD57, AO59, and AA62 were cited in an Office Action in related U.S. Patent Application No. 09/669,634, filed September 26, 2000, entitled

"High Frequency Translator and Method of High Frequency Translation," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 6,049,706; 6,421,534; and 6,560,301, which have already been cited in the present application.

Documents AI52 and AA53-AC53 were cited in an Office Action in related U.S. Patent Application No. 09/986,764, filed November 9, 2001, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter.

Documents AB53, AE53, and AC60 were cited in an Office Action in related U.S. Patent Application No. 10/289,377, filed November 7, 2002, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,898,912, which has already been cited in the present application.

Documents AD53-AG53 were cited in a search report in related PCT Application No. PCT/US02/35861, filed November 8, 2002, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter.

Documents AH53, AI53, and AA54-AE54 were cited in an Office Action in related U.S. Patent Application No. 09/476,093, filed January 3, 2000, entitled "Family Radio System with Multi-Mode and Multi-Band Functionality," directed to related subject matter.

Documents AE54 and AB62 were cited in an Office Action in related U.S. Patent Application No. 09/476,093, filed January 3, 2000, entitled "Communication System Method With Multi-Mode and Multi-Band Functionality and Embodiments Thereof, Such as the Family Radio Service," directed to related subject matter. Also cited in said

Office Action was U.S. Patent No. 5,937,013, which has already been cited in the present application.

Documents AF54-AI54 were cited in a search report in related PCT Application No. PCT/US03/16403, filed May 27, 2003, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter.

Documents AG54 and AE62-AG62 were cited in an Written Opinion in related PCT Application No. PCT/US03/16403, filed May 27, 2003, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter.

Documents AG54, AH62, AI62, and AA63-AD63 were cited in an Office Action in related U.S. Patent Application No. 10/290,323, filed November 8, 2002, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter.

Documents AA55 and AB55 were cited in an Office Action in related U.S. Patent Application No. 09/550,642, filed April 14, 2000, entitled "Method and System for Down-converting an Electromagnetic Signal, and Transforms for Same," directed to related subject matter.

Documents AC55, AB56, AH56, AI56, AE57, AF57, and AI64 are co-owned patents which are directed to related subject matter.

Documents AD55-AH55 were cited in an Office Action in related U.S. Patent Application No. 09/548,923, filed April 13, 2000, entitled "Method and System for

Frequency Conversion with Modulation Embodiments," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 6,091,940 and 6,353,735, which have already been cited in the present application.

Documents AG55, AE60, and AF60 were cited in an Office Action in related U.S. Patent Application No. 09/525,185, filed March 14, 2000, entitled "Spread Spectrum Applications of Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,339,459 and 5,937,013, which have already been cited in the present application.

Documents AI55 and AA56 were cited in an Office Action in related U.S. Patent Application No. 09/543,867, filed April 5, 2000, entitled "Automated Meter Reader Applications of Universal Frequency Translation," directed to related subject matter.

Documents AB56, AH56, AI56, AE57, AF57, and AD60 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/838,387, filed April 20, 2001, entitled "Method and System for Down-Converting and Up-Converting an Electromagnetic Signal, and Transforms for Same," directed to related subject matter. Also cited in said Notice of Allowance were U.S. Patent Nos. 5,937,013 and 6,061,551, which have already been cited in the present application.

Documents AC56 and AD56 were cited in an Office Action in related U.S. Patent Application No. 10/317,181, filed December 12, 2002, entitled "Differential Frequency Down-Conversion Using Techniques of Universal Frequency Translation Technology," directed to related subject matter.

Documents AE56 and AF56 were cited in an Office Action in related U.S. Patent Application No. 10/317,165, filed December 12, 2002, entitled "Method and Apparatus

for Reducing DC Offsets in Communication Systems Using Universal Frequency Translation Technology, "directed to related subject matter.

Documents AG56 and AN59 were cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled, "Optical Down-converter Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AG56, AP59 and AC64 were cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled "Optical Downconverter Using Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action were Dines, J.A.B., "Smart Pixel Optoelectronic Receiver Based on a Charge Sensitive Amplifier Design," *IEEE Journal of Selected Topics in Quantum Electronics*, IEEE, Vol. 2, No. 1, pp. 117-120 (April 1996); Simoni, A. et al., "A Digital Camera for Machine Vision," 20th International Conference on Industrial Electronics, Control and Instrumentation, IEEE, pp. 879-883 (September 1994); and Stewart, R.W. and Pfann, E., "Oversampling and sigma-delta strategies for data conversion," Electronics & Communication Engineering Journal, IEEE, pp. 37-47 (February 1998), which have already been cited in the present application.

Documents AI56, AE57, AC62, and AD62 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/525,615, filed March 14, 2000, entitled "Method, System, and Apparatus for Balanced Frequency Up-conversion of a Baseband Signal and 4-Phase Receiver and Transceiver Embodiments," directed to related subject matter. Also cited in said Notice of Allowance were U.S. Patent Nos. 6,091,940 and 6,370,371, which have already been cited in the present application.

Document AA57 was cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled, "Optical Down-converter Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AG57-AI57 and AA58 were cited in an Office Action in related U.S. Patent Application No. 09/567,978, filed May 10, 2000, entitled "Carrier and Clock Recovery Using Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,937,013, which has already been cited in the present application.

Documents AB58 and AC58 were cited in a Notice of Allowance in related U.S. Patent Application No. 10/330,219, filed December 30, 2002, entitled "Methods and Systems for Down-Converting Electromagnetic Signals, and Applications Thereof," directed to related subject matter.

Documents AD58-AI58 and AA59-AF59 were cited in an Office Action in related U.S. Patent Application No. 09/566,188, filed May 5, 2000, entitled "Integrated Frequency Translation and Selectivity with Gain Control Functionality, and Applications Thereof," directed to related subject matter.

Documents AG59 and AH59 were cited in an Office Action in related U.S. Patent Application No. 09/632,856, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology Including Multi-Phase Embodiments and Circuit Implementation," directed to related subject matter.

Documents AI59, AA60, and AB60 were cited in an Office Action in related U.S. Patent Application No. 09/569,044, filed May 10, 2000, entitled "Universal Platform Module and Methods and Apparatuses Relating Thereto Enabled by Universal

Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 2,057,613; 2,241,078; 2,283,575; 2,358,152; 2,410,350; 2,451,430; 2,472,798; 4,653,117; and 5,241,561, which have already been cited in the present application.

Documents AG60-AI60 and AA61 were cited in an Office Action in related U.S. Patent Application No. 09/569,045, filed May 10, 2000, entitled "Methods and Apparatuses Relating to a Universal Platform Module and Enabled by Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,339,459 and 5,557,641, which have already been cited in the present application.

Documents AB61-AD61 were cited in an Office Action in related U.S. Patent Application No. 09/590,955, filed June 9, 2000, entitled "Phase Shifting Applications of Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,339,459, which has already been cited in the present application.

Documents AE61-AG61 were cited in an Office Action in related U.S. Patent Application No. 09/550,642, filed April 14, 2000, entitled "Method and System for Down-Converting an Electromagnetic Signal, and Transforms for Same," directed to related subject matter.

Documents AH61 and AI61 were cited in an Office Action in related U.S. Patent Application No. 10/317,165, filed December 12, 2002, entitled "Method and Apparatus for Reducing DC Offsets in Communication Systems Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AE63-AG63 were cited in an Office Action in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,937,013; 6,014,551; 6,073,001; 6,085,073; and 6,314,279, which have already been cited in the present application.

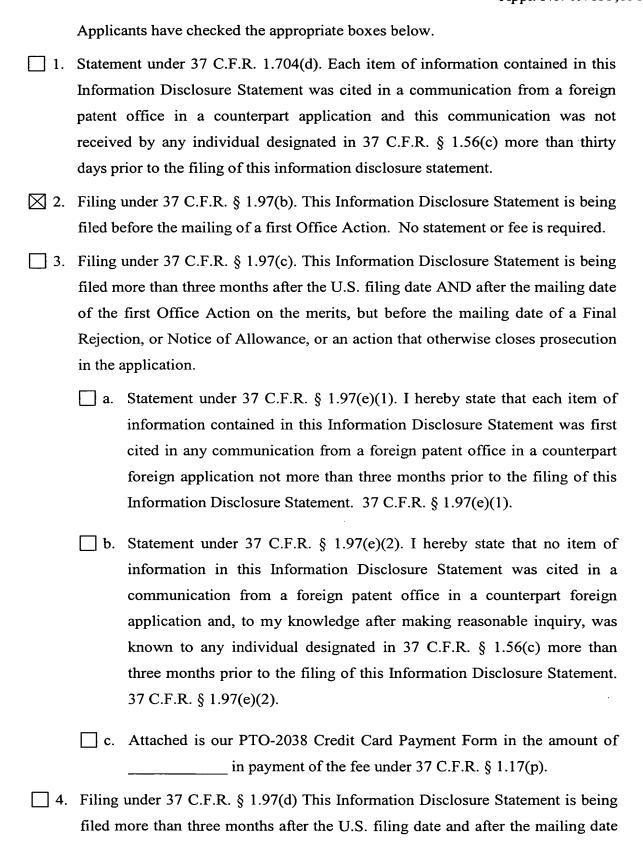
Documents AH63, AI63, AA64, and AB64 were cited in an Office Action in related U.S. Patent Application No. 09/986,764, filed November 9, 2001, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter.

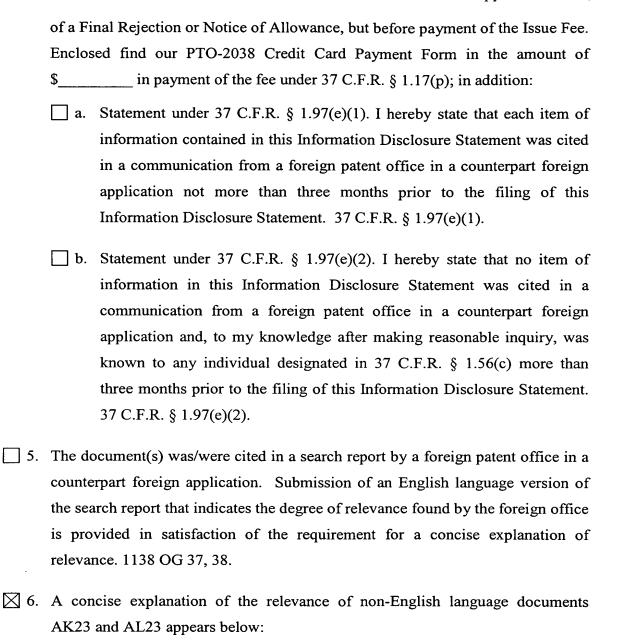
Documents AD64-AG64 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/987,193, filed November 13, 2001, entitled "Method and Apparatus for a Parallel Correlator and Applications Thereof," directed to related subject matter.

Document AH64 was cited in an Office Action in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter.

It is noted that some of these documents could be classified in more than one of the above categories.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.





Document AK23 (JP 9-36664) appears to describe a frequency conversion circuit. A copy of the English-language abstract of document AK23 is enclosed as document AR58.

Document AL23 (DE 196 48 915 A1) appears to describe a process of frequency conversion. An English-language translation of document AL23 is enclosed as document AO59.

∑ 7. Copies of documents AK23, AL23, AR58, and AN59-AP59 are submitted. However, in accordance with 37 C.F.R. § 1.98(a)(2), no copies of U.S patents and patent application publications cited on the attached Form PTO-1449 are submitted.

8. Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No.\_\_\_\_\_\_, filed \_\_\_\_\_\_, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

☑ 9. It is expected that the examiner will review the prosecution and cited art in the parent application no. 09/550,644, filed April 14, 2000, and indicate in the next communication from the office that the art cited in the earlier prosecution histories have been reviewed in connection with the present application.

It is respectfully requested that the Examiner initial and return a copy of the enclosed Form PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

Sterne, Kessler, Goldstein & Fox p.l.l.c.

Patrick E. Garrett

Attorney for Applicants Registration No. 39,987

Date: \_ [[] 16 0 4

1100 New York Avenue, N.W. Washington, D.C. 20005-3934 (202) 371-2600

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	AJ							Yes No
	AK23	JP	9-36664	02/1997	JP			No
	AL23	DE	196 48 915 A1	06/1998	DE			Yes (Doc. AO59)
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	AB53	$\dashv$	5,4	71,665	11/1995	Pace et al.				
	AC53	3	6,3	27,313 B1	12/2001	Traylor et al.				_
	AD53	3	5,7	51,154	05/1998	Tsugai				
_	AE53	3	5,7	93,817	08/1998	Wilson				
	AF53	3	6,2	25,848 B1	05/2001	Tilley et al.				
	AG5	3	6,3	13,685 B1	11/2001	Rabii	_			
	AH5	3	3,6	14,627	10/1971	Runyan et al.				
	AI53		3,9	40,697	02/1976	Morgan				
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	AP	<u>59</u>	<u>9</u>	Deboo, Gordon Inc., pp. 41-45 (		ed Circuits and Semico	nductor De	evices,	2 <sup>nd</sup> Edition,	McGraw-Hill,
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	AA54	4,016,366	04/1977	Kurata			
<del>_</del>	AB54	4,045,740	08/1977	Baker			
	AC54	4,115,737	09/1978	Hongu et al.			
	AD54	5,710,992	01/1998	Sawada et al.			
	AE54	5,790,587	08/1998	Smith et al.			
	AF54	4,740,675	04/1988	Brosnan et al.			
	AG54	5,483,600	01/1996	Werrbach			
	AH54	6,011,435	01/2000	Takeyabu <i>et al.</i>			
	AI54	6,321,073 B1	11/2001	Luz et al.			
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*	AA55	6,026,286	02/2000	Long			
	AB55	6,178,319 B1	01/2001	Kashima			
_	AC55	6,634,555 B1	10/2003	Sorrells et al.			
	AD55	3,736,513	05/1973	Wilson			
	AE55	4,488,119	12/1984	Marshall			
	AF55	4,633,510	12/1986	Suzuki <i>et al.</i>			
	AG55	5,369,789	11/1994	Kosugi et al.			
	AH55	5,416,449	05/1995	Joshi			
-	Al55	5,438,329	08/1995	Gastouniotis et al.			
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	AA56		11,569 B1	08/2003	Schier et al.			
	AB56	6,6	47,250 B1	11/2003	Bultman et al.			
	AC56	5,6	82,099	10/1997	Thompson et al.			
	AD56	6,0	94,084	07/2000	Abou-Allam et al.			
	AE56	6,0	67,329	05/2000	Kato et al.			
	AF56	6,5	16,185 B1	02/2003	MacNally			
	AG56	6,6	08,647	08/2003	King			
	AH56	6,6	87,493 B1	02/2004	Sorrells et al.			
	AI56	6,6	94,128 B1	02/2004	Sorrells et al.			
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	AA57	+	31,217	02/200		╁	swell <i>et al</i> .				
	AB57	5,9	55,992	09/199	99	┼	nattil				
	AC57	+-	99,561	12/199		┼	aden <i>et al.</i>	· · · · · ·			
	AD57	6,6	86,879 B2	02/200	)4	SI	nattil				
	AE57	6,7	04,549 B1	03/200	)4	So	orrells et al.				
	AF57	6,7	704,558 B1	03/200			Sorrells et al.				
	AG57	5,4	90,176	02/199	96	P	eltier				
	AH57	5,9	70,053	10/199	99	S	chick <i>et al.</i>		11.1		
	AI57	6,0	78,630	06/200			rasanna				
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	AA58	6,6	00,911 B1	07/2003	Morishige et al.					
	AB58	5,1	79,731	01/1993	Tränkle et al.					
	AC58	5,5	89,793	12/1996	Kassapian					
	AD58	4,5	510,467	04/1985	Chang et al.					
	AE58	4,7	72,853	09/1988	Hart		·			
	AF58	4,9	72,436	11/1990	Halim et al.					
	AG58	5,0	12,245	04/1991	Scott et al.					
	AH58	5,4	22,909	06/1995	Love et al.					
	AI58	5,4	40,311	08/1995	Gallagher et al.					
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	AA59	5,926,513	07/1999	Suominen et al.				
	AB59	5,995,030	11/1999	Cabler				
	AC59	6,047,026	04/2000	Chao et al.				
	AD59	6,049,573	04/2000	Song				
	AE59	6,076,015	06/2000	Hartley et al.				
	AF59	6,144,331	11/2000	Jiang				
	AG59	6,018,553	01/2000	Sanielevici et al.				
	AH59	6,317,589 B1	11/2001	Nash				
	AI59	5,058,107	10/1991	Stone et al.				
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	AA60	5,757,858	05/1998	Black et al.			
	AB60	6,531,979 B1	03/2003	Hynes			
	AC60	6,018,262	01/2000	Noro et al.			
	AD60	4,761,798	08/1988	Griswold, Jr. et al.			
	AE60	5,982,315	11/1999	Bazarjani et al.			
	AF60	6,459,721 B1	10/2002	Mochizuki et al.			
	AG60	6,151,354	11/2000	Abbey			
	AH60	6,169,733 B1	01/2001	Lee			
	Al60	6,363,262 B1	03/2002	McNicol			
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INITIAL	AA61		97,603 B1	02/2004	Lovinggood et al.	CLASS	SUB-CLASS	FILING DATE	
	AB61	<del> </del>	82,222	01/1994	Fattouche et al.				
	AC61	├	49,827	09/1999	DeLuca et al.				
	AD61	6,0	14,176	01/2000	Nayebi <i>et al.</i>				
	AE61	5,6	78,226	10/1997	Li et al.		-		
	AF61	5,7	60,632	06/1998	Kawakami et al.				
	AG61	6,1	60,280	12/2000	Bonn et al.				
	AH61	5,4	81,570	01/1996	Winters				
	Al61	5,7	45,846	04/1998	Myer et al.				
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	AA62	5,3	45,239 	09/1994	Madni et al.			
	AB62	4,1	32,952	01/1979	Hongu et al.			
	AC62	5,2	60,973	11/1993	Watanabe			
	AD62	6,3	07,894 B2	10/2001	Eidson et al.			
	AE62	6,0	91,289	07/2000	Song et al.			
	AF62			08/2002	Nguyen et al.			
	AG62			03/2002	Ichihara			
	AH62	4,4	41,080	04/1984	Saari			
	Al62	4,8	73,492	10/1989	Myer			
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INITIAL	AA63	5,697,074	12/1997	Makikallio et al.	0000	GOD-OLAGO	TIENO DATE	
<u> </u>	AB63	5,784,689	07/1998	Kobayashi				
	AC63	6,335,656 B1	01/2002	Goldfarb et al.				
	AD63	6,690,232 B2	02/2004	Ueno et al.				
	AE63	5,636,140	06/1997	Lee et al.				
	AF63	6,366,622 B1	04/2002	Brown et al.				
	AG63	6,600,795 B1	07/2003	Ohta et al.				
	AH63	4,250,458	02/1981	Richmond et al.				
	Al63	5,760,629	06/1998	Urabe et al.				
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	AA64	6,0	84,465	07/2000	Dasgupta			
	AB64	6,2	04,789 B1	03/2001	Nagata			
			64,054	05/2000	Waczynski <i>et al.</i>			
			18,562	06/1993	Basehore et al.			
	AE64	5,239,496		08/1993	Vancraeynest			
	AF64	5,896,304		04/1999	Tiemann et al.			
	AG64	6,005,903		12/1999	Mendelovicz			
	AH64 5,8		34,979	11/1998	Yatsuka			
	Al64	6,7	98,351 B1	09/2004	Sorrells et al.			
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